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**AIRWORTHINESS DIRECTIVE**

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For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

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**British Aerospace BAe 146 Series Aeroplanes****AD/BAe 146/140****Airbrake Lever Detent Mechanism****21/2009**

**Applicability:** BAE Systems (Operations) Ltd, British Aerospace plc, British Aerospace (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft trading as Avro International Aerospace: BAe 146 Series 100, 100A, 200 and 200A aeroplanes, serial numbers as listed in British Aerospace (Commercial Aircraft) Ltd Modification Service Bulletin SB.27-73-00889A&B, Revision 4 dated 15 June 1990.

*Note 1: BAe 146 Series 100A and 200A aeroplanes have been manufactured to the United States (FAA) certification standard.*

**Requirement:** Modify the airbrake lever detent mechanism in accordance with the instructions of British Aerospace (Commercial Aircraft) Ltd Modification Service Bulletin SB.27-73-00889A&B, currently at Revision 4 dated 15 June 1990 or later revision approved by the European Aviation Safety Authority (EASA).

Modification of an aeroplane, prior to the effective date of this AD, in accordance with the instructions of British Aerospace (Commercial Aircraft) Ltd Service Bulletin SB.27-73-00889A&B at original issue, Revision 1, Revision 2 or Revision 3 is an acceptable method to comply with the modification requirements of this AD.

*Note 2: EASA AD 2009-0206 dated 30 September 2009 refers.*

**Compliance:** Within the next 12 months after the effective date of this AD, unless previously accomplished.

This Amendment becomes effective on 14 October 2009.

**Background:** The operation of the airbrake lever in the “airbrakes out” to “lift spoiler” range has been the subject of two occurrence reports. The lift spoilers on the BAe 146 and Avro 146-RJ aeroplanes have been designed to deploy on landing to provide aerodynamic braking and to dump lift to ensure that the wheel brakes can provide the necessary speed reduction.

A review of the changing operational profile of the aeroplane type concluded that its proven short field performance has increasingly been exploited in recent years by a number of operators worldwide. Frequently, these short field operations are conducted from airports that are located in mountainous terrain or in close proximity to bodies of water, leaving fewer margins for error, e.g. landing long or at (too) high speed.

## British Aerospace BAe 146 Series Aeroplanes

AD/BAe 146/140 (continued)

The effects of deceleration and landing inertia loads can cause uncommanded movement of the airbrake selector lever from the “lift spoiler” position to the “airbrakes out” position, causing the lift spoilers to retract during the landing roll.

This condition, if not corrected, would increase the landing distance, possibly resulting in a runway overrun and consequent injury to aeroplane occupants.

On certain BAe 146 aeroplanes, without modifications HCM00889A and B or modifications HCM00889A and C incorporated, negligible force is required to move the airbrake lever back to the “airbrakes out” position. From 1988 onwards, modifications were introduced on the production line to incorporate a modified friction baulking device such that a force of 12 lbs must be applied to move the airbrake lever from the “lift spoiler” position to the “airbrakes out” position. These modifications were also made available as an optional in-service retrofit.

For the reasons described above, this AD requires the modification of the airbrake lever detent mechanism.



David Villiers  
Delegate of the Civil Aviation Safety Authority

9 October 2009